

DEVELOPMENT OBJECTIVE

[] FILM PROCESSOR

Declass Review by
NIMA/DOD

STAT

1. Introduction

This development objective outlines requirements for the design and fabrication ~~an~~ of an ^{expanded} ~~expanded~~ [] film processor.

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2. Concept

The objective of this program is to build a new-concept film processor utilizing the [] principle developed and demonstrated []

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STAT3. General Description

The specification describes the requirement for ^a ~~continuous~~ compact roll-film processing machine. The ~~machine~~ ^{equipment} shall ^{emphasize} compactness so that the processor will physically ^{in overall length} ~~overall that shall not exceed 10 feet~~ and shall be designed so not to ~~show~~ ^{should not travel through} chambers in a serpentine path. ~~The film throughout the processing or drying sections~~ The film base and emulsion shall not ^{come in with any} ~~contact~~ solid parts of the processing section of the machine.

4. Requirements

- a. ^{The processor} shall handle film widths varying from 70 mm to 9 $\frac{1}{2}$ " and up to 1000' ^{in length} ~~in length~~.
- b. The film ^{path} ~~pass~~ shall be straight and horizontal through all solution and drying chambers.
- c. The film shall be ^{or liquid} transported at all points by air ~~electric~~ bearings and shall make no physical contacts ^{with} ~~with~~ rollers or other solid parts.
- d. The ~~processor~~ ^{processing and} in drying ^{rate} ~~range~~ shall be ^{not} ~~not~~ less than 10' per minute.
- e. ^{The processor} shall be capable of ^{high quality} ~~processing film to the highest possible~~ ^{quality and} ~~quality and~~ shall ^{not} ~~not~~ damage the film base or emulsion in any way ~~or manner~~.

f. It shall process and fix and wash film to ^{archival} high quality.
g. It shall be as ^{'compact'} as possible, ^{modular in construction and} consistent with technical requirements. ^{consistent design of design} requirements and be modular in construction. When fully assembled and operational, it shall not exceed 10' ⁱⁿ overall ~~en~~ length.

h. It shall use conventional chemistry.

i. The machine shall ~~be able to~~ operate under daylight (room ^{ambient} conditions). A light-type magazine shall be provided for machine loading in room light.

j. Convenience in threading shall be emphasized in the design.

The ~~trh~~ threading operation shall not require more than 10' of film.

^{In the same way} Likewise, the machine shall not require more than 10' of ^{trailer} travel for optimum film transport ^{or} processing to the end of the film.

k. ~~The design of~~ The machine shall ^{be} facilitate easy operating and ^{rapid to} clean ~~without~~ danger of damage to machine parts.

l. The machine design ^{should} ~~show~~ ^{visually demonstrate} minimized carry-over of solutions from one processing chamber to the other.

m. The machine shall have average processing ^{speed} of 10 ^{feet} per minute

^{when} ~~and be~~ used to process standard aerial films ^{with} standard chemicals ^g

^{whose} ~~the~~ chemical concentrations ^{and} temperatures have been ^{tailored} ~~tempered~~ to the machine design.

n. The machine shall process film to ^{archival} ~~our~~ standards. Density variation ^{within an area} shall not exceed ~~0.05~~ ^{0.05} ~~1/4~~ ^{1/4} 9 1/2" sq. on film development ^{ed} to a mean density of 1.0. Maximum density variation ^{of} 0.02 will be

a design goal.

o. Temperature control ^{of with chemicals} ~~within~~ the processing ^{section} shall ~~may~~ be maintained ^{within} ~~with~~ $\pm \frac{1}{2}^{\circ}\text{F}$. The temperature control range shall be continuously variable from 68° ~~to~~ 160° F.

p. The machine shall be provided with a ~~replenish~~ ^{replenishing} replenishment system of sufficient capability to process at least 1000' of film $9\frac{1}{2}$ " wide.